We claim:

1. A composition for enhancing transport or release through cell membranes, between cells, cell barriers, or lipid membranes comprising

a membrane barrier transport enhancing agent selected from the group consisting of polymers changing structure or properties in response to at least one stimulus, peptides which are hydrophobic and form pores in cell membranes as a function of a change in pH, and phospholipid disrupting agents, and

means for inducing or enhancing the effectiveness of the agent to disrupt the membrane.

2. The composition of claim 1 wherein the means for inducing the agent is a stimulus inducing a change in polymer structure.

3. The composition of claim 3 wherein the means for inducing the membrane barrier transport enhancing agent is selected from the group consisting of pH, light, ionic strength, solvent composition, temperature, and electric field.

4. The composition of claim 1 wherein the means for enhancing the effectiveness of the membrane barrier transport enhancing agent is selected from the group consisting of ultrasound, electrical field, radiation, or a combination thereof.

5. The composition of claim 1 for transport into or through cells, cell membranes, or a cell barrier comprising the membrane barrier transport enhancing agent in combination with a diagnostic or therapeutic agent.

6. The composition of claim 5 wherein the membrane barrier transport enhancing agent is pH sensitive and does not change structure or properties at physiological pH but does change structure or properties at a pH range of between about 5.0 and 6.5.

7. The composition of claim 6 wherein the pH sensitive polymer is graft copolymer, block copolymer, random copolymer or blends comprising monomeric units prepared from monomers selected from the group consisting of acrylic acid, C_{1-6} straight chain, branched, and cyclic 2-

alpha-alkyl acrylic acids, esters of acrylic acid copolymerized with acrylic acid, polymers including one or more polymeric blocks comprising proteins or peptides which include imidazole groups.

8. The composition of claim 1 wherein the membrane barrier transport enhancing agent is coupled with a ligand binding to the surface of a cell.

9. The composition of claim 1 further comprising a compound which decreases lysosomal degradation.

10. The composition of claim 5 wherein the therapeutic agent is a cytotoxic compound.

11. The composition of claim 1 further comprising a polycationic polymer.

12. The composition of claim 5 wherein the therapeutic agent is a nucleoside, nucleotide, nucleic acid, or nucleic acid molecule.

13. The composition of claim 1 further comprising a carrier selected from the group consisting of microparticles, nanoparticles, liposomes, emulsion and lipid vesicles.

14. The composition of claim 1 wherein the means for enhancing the effectiveness of the agent to disrupt the membrane is ultrasound.

15. A method for enhancing transport or release through cell membranes, between cells, cell barriers or lipid membranes comprising administering to the cells, cell membranes, cell layer, cell barrier, or lipid membranes any of the compositions of claims 1-14.

16. The method of claim 15 wherein the means for enhancing the effectiveness of the agent to disrupt the membrane is ultrasound administered at between 20 kHz and 10 MHz.

17. The method of claim 15 wherein the composition is administered to cells in a suspension.

18. The method of claim 15 wherein the composition is administered to layers of cells to enhance transport through the cell layers.

19. The method of claim 15 wherein the composition is administered to lipid membranes to enhance transport of molecules into or

out of the lipid membranes.

20. The method of claim 15 wherein the composition is administered in combination with electrophoresis or iontopheresis.